L 63801-65 EWT(l)/EPF(c)/EPF(n)-2/EWA(d)/EWP(k) IJP(c) WW/GG 31
ACCESSION NR: AP 5018089 UR/0020/65/163/001/0155/0156 29

AUTHOR: Starodubtsev, S.V. (Academician AN UzSSR); Knopov, V. M.; Pozharov, S. L.; Chernov, T. G.

TITLE: Existence of the H_5^+ ion in a positive column of a hydrogen glow discharge at high pressure

SOURCE: AN SSSR: Doklady, v. 163, no. 1, 1965, 155-156

TOPIC TAGS: ion cluster, hydrogen glow discharge, positive glow discharge column, hydrogen ion plasma, five plus hydrogen ion, current intensity, discharge current, ion plasma, ternary ion collision, volume recombination, free electron concentration

ABSTRACT: In connection with the recent, surprising discovery of the ion cluster H_5^+ in a negative column of a hydrogen glow discharge at a pressure of 0.25 mm Hg (F. H. Dawson, A. W. Tickner. J. Chem. Phys. 37, 672, 1962), the authors attempted to find out whether this ion cluster also exists in a positive column of glow discharge in hydrogen at higher pressures. (1 - 10 mm Hg) The ions were taken from the plasma along the discharge axis through a 72 μ diameter aperture in the

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anode. Using previously described apparatus (K. S. Burdin, S. L. Pozharov, et al. Izv. An UzSSR, 4, 59, 1963), along with the ions H_1^+, H_2^+, and H_3^+, the authors discovered the ion with the mass number 5, whose current intensity with respect to that of the H_3^+ ions was 0.65%, which is five times as high as that measured by Dawson and Tickner. The high sensitivity of the apparatus used, as well as the relatively high intensity of the ion current extracted from the plasma ($\sim 4.10^{-8}$ a) made it possible sufficiently accurately to determine the relative current intensity of the H_5^+ ions as a function of pressure and current of discharge. Thus, relative current intensity of the H_5^+ ions reaches a minimum at 7 mm Hg, whereupon it rises to a peak at 9 mm Hg and falls steeply at 10 Hg mm. These findings cannot be conclusively interpreted in view of the absence of any information on the H_5^+ ion. A possible explanation, however, is that the increase in pressure leads to a corresponding increase in the number of ternary collisions which, in all likelihood, lead to the formation of the complex $H_3^+ \cdot H_2$

$$H_2^+ + 2H_2 = H_3^+ \cdot H_2 + H_2$$

On the other hand, the increase in pressure is associated with a decrease in electron temperature and increase in the concentration of free electrons, which,

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in its turn, should be associated with an increase in the probability of the volume recombination of the H_5^+ ion with electrons. It must be assumed that the coefficient of volume recombination for the H_5^+ ion is extremely high. The effect of these two competing processes may account for the formation of a maximum in the pressure range of 4-9 mm Hg. The assumption of the considerable effectiveness of the volume recombination between the H_5^+ complex and electrons is in good agreement with the relationship between the relative current of that ion and the discharge current, which implies that the relative current of H_5^+ decreases fairly steeply with increasing discharge current. Orig. art. has: 1 figure.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk UzSSR (Institute of Nuclear Physics, Academy of Sciences, UzSSR)

SUBMITTED: 22Jan 65 ENCL: 00 SUB CODE: NP, EM

NO REF SOV: 001 OTHER: 007

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L 47318-66 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW/JG/GG

ACC NR: AR6025748 SOURCE CODE: UR/0058/66/000/004/A072/A072

47
B

AUTHOR: Starodubtsev, S. V.; Sinyukov, V. A.; Karimov, R. Kh.; Lyutovich, A. S.

TITLE: Investigation of the distribution of phosphorus in silicon crystals by the tracer atom method

SOURCE: Ref. zh. Fizika, Abs. 4A608

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 37

TOPIC TAGS: crystal growing, silicon, crystal impurity, tracer analysis, phosphorus, twinning

ABSTRACT: The authors investigate the growing of crystals by the Czochralski method from Si, doped beforehand from the gas phase in the process of reduction of its chloride. The electrophysical parameters of the grown crystals are studied. The procedure for analyzing the distribution of P in the volume of the crystal by the radioactive tracer method is described. The question of the uneven distribution of the impurities in the volume of the crystal and the formation of so-called "canals" is discussed. The distribution of P on the twinning boundary is investigated. [Translation of abstract]

SUB CODE: 20

L 25917-66 EWT(m) DIAAP

ACC NR: AP6016677 SOURCE CODE: UR/0166/65/000/005/0036/0048

AUTHOR: Begzhanov, R. B.; Rakovitskiy, S. L.; Starodubtsev, S. V.

ORG: Institute of Nuclear Physics AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: E-2 transitions from the 3^+ level of even-even nuclei

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 5, 1965, 36-48

TOPIC TAGS: even even nucleus, nuclear model

ABSTRACT: It is of great importance in the testing and perfection of nuclear models to compare existing experimental data with the predictions of various theories. For instance, the theory of A. S. DAVYDOV and G. F. FILIPPOV (see, e. g., ZhETF [Journal of Experimental and Theoretical Physics] 35, 440, 1958; 36, 1497, 1959) predicts uniquely (as a function of the nonaxiality parameter) the relative positions of the rotational levels and the relative intensities of the E2-transitions. D. VAN PATTER (M. Nucl. Phys., 14, 42, 1959) carried out such a comparison for E2-transitions from the two first 2^+ excited levels for a large number of even-even nuclei. The present paper compares, on the basis of 98 references, the position of 3^+ levels and the ratios of the given probabilities of transitions from this level to the lower

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L 25917-66
ACC NR: AP6016677

2_1^+, 4_1^+, levels with the predictions of various theories of the nuoleus by DAVYDOV and FILIPPOV, BOHR, and MOTTELSON (see, e. g., Atomnaya energiya [Atomic Energy], 1963, No 14, 41), and by V.I. BELYAK, D. A. ZAIKIN, Izv. AN SSSR, seriya fizich. [Bulletin of the AS USSR, Physics Series], 25, 1163, 1961). Such a comparison was partially made earlier by Ye. P. GRIGOR'YEV and M.P. AVOTINA (Izv. AN SSSR, seriya fizich. 24, 324, 1960). Because of the limited amount of data at the time concerning the 3^+ levels (only nine nuclei) and poor experimental accuracy of the numbers involved, these authors were not able to make pronouncements concerning the merits of the various theories. The present discussion shows that in spite of numerous favorable agreements, many experimental facts are still in disagreement with the above-mentioned nuclear theories. Orig. art. has: 3 figures, 9 formulas, and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: 02Mar64 / ORIG REF: 027 / OTH REF: 071

Card 2/2 BLG

L 23757-66 EWT(m)/T/EWP(t) IJP(c) JD

ACC NR: AP6008553 SOURCE CODE: UR/0166/66/000/001/0085/0086

AUTHOR: Starodubtsev, S.V.; Kharchenko, V.V.; Prutkin, V.P.; Lyutkovich, A.S.

ORG: Physics Technical Institute, AN UzSSR (Fiziko-tekhnicheskiy institut AN UzSSR)

TITLE: Diffusion of phosphorus in epitaxial silicon

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1966, 85-86

TOPIC TAGS: epitaxial growing, single crystal, phosphorus, silicon

ABSTRACT: The authors investigated the diffusion of phosphorus in epitaxial layers of silicon grown from the gas phase by means of the reaction of hydrogen reduction of silicon chloride. The experiments were performed on single crystal films with a specific resistance of the order of 90 ohm·cm grown at 1200C on silicon base layers. The results show that the phosphorus diffusion coefficient in epitaxial film at 1000C is $3 \cdot 10^{-12}$ cm^2/sec, and differs considerably from the phosphorus diffusion coefficient at the same temperature in single crystals of silicon ($3 \cdot 10^{-14}$ cm^2/sec). This, apparently, is related to the characteristics of the structure of epitaxial films. Orig. art. has: 1 figure.

SUB CODE: 20,07 SUBM DATE: 08Aug65 / ORIG REF: 001 / OTH REF: 006

Card 1/1

L 3[illegible]

ACC NR: AP6018116 SOURCE CODE: UR/0166/65/000/004/0040/0044

AUTHOR: Starodubtsev, S. V.; Pozharov, S. L.; Chernov, I. G.

ORG: Nuclear Physics Institute, AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Double focusing in mass spectrometers with an inhomogeneous magnetic field

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1965, 40-44

TOPIC TAGS: mass spectrometry, nonhomogeneous magnetic field, electrostatic field, ion beam

ABSTRACT: The use of an inhomogeneous magnetic field in mass spectrometry markedly enhances the dispersion and resolving power of instruments without changing the radius of ion trajectory and the slit width of source and receiver. However, owing to the presence of initial kinetic energies in the ions and the distribution of potentials in the ion source, the ions in the beam may get scattered with respect to energies and the lines may widen. This effect may be eliminated by adding a specially selected electrostatic field. FISHER (Zs. f. Physik, 133, 1952, 455) has described a mass spectrometer with first-order double focusing with combined electrostatic and magnetic fields. But such combining involves difficulties due to the need to overcome the boundary-field effect; moreover, it is not always convenient to have the

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ACC NR: AP6018111

receiver and source in the magnetic-field region. Hence, the authors investigated the conditions for first-order double focusing in the central plane for a tandem-type mass spectrometer with an inhomogeneous magnetic field and a homogeneous electrostatic field, with both fields deflecting the ion beam in the same direction. The formula for double focusing in such directions and speeds is derived, and a particular example is presented, showing how the difficulties involved in this solution can be overcome. Orig. art. has: 1 figure and 14 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: 23Jul64 / ORIG REF: 005 / OTH REF: 001

Card 2/2

L 33796-66 EWT(m)

ACC NR: AP6025121 SOURCE CODE: UR/0166/66/000/001/0062/0064

AUTHOR: Starodubtsev, S. V.; Abdukadyrova, I. Kh.; Generalova, V. V. 38 B

ORG: Institute of Nuclear Physics, AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Loop dose transformer

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1966, 62-64

TOPIC TAGS: physical chemistry, chemical reactor, radiation dosimetry, photoelectric detection equipment

ABSTRACT: The operating principle of a loop dose-meter is based on the recording of physicochemical changes in aqueous glucose solutions circulating through the active zone of a reactor. The use of such a system allows the remote and continuous measurement of an absorbed dose of mixed radiation in one of the vertical channels of a VVR-S reactor without substantial disturbance of the dose field of the active zone. The working part of the loop to be placed in the active zone will be U-shaped, spiral, or cylindrical, depending on the experimental requirements. An SA-2 photoelectric saccharimeter is used as the recording device. A comparison of the dosimetric characteristics for a loop with a spiral irradiator and one with a U-shaped irradiator showed that the change to a U-shaped irradiator results in an increase in the transformation coefficient. The transformation coefficient can also be increased by maintaining the level of dosimetric liquid or by adding to the device special expanders which increase the total volume of the dosimetric system. Orig. art. has: 2 figures. [JPRS: 35,534]

SUB CODE: 07, 09, 06 / SUBM DATE: 14Jul65 / ORIG REF: 004

Card 1/1 BLG

L 38877-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6018562 SOURCE CODE: UR/0181/66/008/006/1924/1928

AUTHOR: Starodubtsev, S. V.; Kaypnazarov, D.; Khiznichenko, L. P.; Kromer, P. F.

ORG: Institute of Nuclear Physics, AN UzSSR, Tashkent (Institut yadernoy fiziki AN UzSSR)

TITLE: Low temperature internal friction in silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1924-1928

TOPIC TAGS: silicon, internal friction, Young modulus, temperature dependence, low temperature research, crystal dislocation phenomenon, silicon single crystal

ABSTRACT: The purpose of the investigation was to determine the dislocation relaxation by measuring the internal friction and Young's modulus of silicon single crystals at low temperatures and low frequencies. Type KEF-250 silicon was tested at temperatures 77 to 300K and frequencies 80 to 400 Hz, in shich the dislocation density ranged from 10^4 to 10^5 cm^{-2}. The internal friction and Young's modulus were measured by the method of free flexural oscillations in vacuum. With increasing temperature Young's modulus decreases monotonically but the internal friction exhibits a peak superimposed on a monotonic growth. The internal-friction peak occurs at 105K for 85 Hz and shifts to higher temperatures with increasing frequency. The results yielded an activation energy of 0.162 ± 0.025 ev and a relaxation time $\approx 3 \times 10^{-11}$ sec. Reasons for differences between these values and those obtained by others are discussed. The ratio of the Peierls stress to the shear modulus in silicon is 1.5×10^{-5}.

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Card 2/2

ACC NR: [illegible] SOURCE CODE: UR/0166/66/000/003/0049/0053

AUTHOR: [illegible], [illegible] V.; [illegible], V. N.; Pozharov, S. L.; Chernov, I. G. 77

ORG: Institute of Nuclear Physics AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Mass-spectrometric investigation of the anode parts of increased-pressure hydrogen glow discharge

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matemeticheskikh nauk, no. 3, 1966, 49-53

TOPIC TAGS: gas discharge plasma, glow discharge, gas discharge spectroscopy, electric discharge ionization, hydrogen ion, electron recombination

ABSTRACT: To check on the efficiency of formation of heavy ion clusters in a gas-discharge plasma at pressures higher than used by other workers (0.1 - 1.0 mm Hg), the authors investigated the ions drawn out from the anode region of hydrogen discharge at pressures 5 - 18 mm Hg. The apparatus was described earlier (Izv. AN UzSSR, seriya fiz.-mat. nauk 1963, no. 4, p. 59). The ions were extracted through an opening in the anode (extraction channel 75 μ dia, 70 μ long). No stable ion current could be produced at pressures higher than 18 mm Hg. The obtained plot of the total ion current against pressure exhibited a periodic variation indicating that the glow discharge was stratified and that the strata moved relative to the anode with change in pressure. The measurements show that the most intense component of the current is due to H_3^+ at all pressures. H_1^+, H_2^+, and ions with masses 4 and 5 were also observed. The mass-5 cluster is positively identified as H_5^+, while the ion with mass 4 is identified as

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L 09315-67
ACC NR: AP6028307

H_3D^+, but only tentatively, in view of its very low content. Plots of the various components against pressure and discharge current are presented and interpreted. The most favorable conditions for the formation of H_5^+ lie in the pressure range 5 - 9 mm Hg. The near-hyperbolic decrease of the H_5^+ component with increasing discharge current is evidence of effective recombination with electrons in the discharge. Orig. art. has: 5 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 03Mar65/ ORIG REF: 001/ OTH REF: 009

[illegible] SOURCE CODE: UR/0166/66/000/003/0068/0070

AUTHOR: [illegible], G. V.; Chubarov, L. B.

ORG: Institute of Nuclear Physics AN AzSSR (Institut yadernoy fiziki AN AzSSR)

TITLE: Electrothermal working of quartz plates

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1966, 68-70

TOPIC TAGS: quartz crystal, irradiation damage, electric heat treatment, crystal impurity

ABSTRACT: In view of the use of electrothermal working to rid the quartz of certain impurities, the authors first determine the time required to eliminate impurity ions by passing current through a heated crystal of given dimensions, and find that this time is proportional to the square of the crystal thickness and inversely proportional to the applied voltage. An expression is then derived for the ratio of the current through the crystal to the initial current as a function of the time. This expression agrees with the experimentally observed variation. The experimentally established difficulty of electrothermal working of quartz irradiated by fast neutrons from a reactor or by large does of γ radiation is attributed to formation of structure damage in the quartz crystal, and in particular to weakening and breaking of the Si-O bonds

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L 09344-67
ACC NR: AP6028306

and clustering of oxygen atoms in channels parallel to the C axis. Orig. art. has: 2 figures and 8 formulas

SUB CODE: 20/ SUBM DATE: 29Jun64/ ORIG REF: 004/ OTH REF: 002

Card 2/2

ACC NR: AR6030484 SOURCE CODE: UR/0275/66/000/006/B008/B008

AUTHOR: Starodubtsev, S. V.; Sinyukov, V. A.; Karimov, R. Kh.; Lyutovich, A. S.

TITLE: Investigation of phosphorus distribution in silicon crystals by the method of tagged atoms

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B54

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 37

TOPIC TAGS: silicon single crystal, silicon semiconductor

ABSTRACT: The results are reported of an investigation of crystal growing by the Chokhral'skiy method from the silicon which was doped from the gas phase in the course of reduction of its chlorides. The results of a study of electrophysical parameters of grown crystals are described. A method of analysis of P distribution in a crystal, which uses radioactive tracers, is described. The problem of non-uniform distribution of impurities in the crystal and of formation of so-called "canals" is discussed. P distribution at twinning boundaries was studied. From the author's abstract [Translation of abstract]

SUB CODE: 09, 11

Card 1/1 UDC: 621.315.592:548.552:546.28

ACC NR: AR6030485 SOURCE CODE: UR/0275/66/000/006/B009/B009

AUTHOR: Starodubtsev, S. V.; Kharchenko, V. V.; Lyutovich, A. S.; Prutkin, V. P.

TITLE: Investigation of distribution of doping impurity in epitaxial silicon films

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B59

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dok. Novosibirsk, 1965, 37-38

TOPIC TAGS: epitaxial ~~silicon~~ (germanium), silicon semiconductor, ~~silicon~~ (metal) film

ABSTRACT: Epitaxial films produced by hydrogen reduction of silicon tetrachloride on silicon backing were studied. A stable phosphorus isotope introduced in the source tetrachloride as PCl_3 was reduced by hydrogen and, along with the silicon, passed to the epitaxial layer. The resulting doped epitaxial films were irradiated with thermal neutrons of 10^9 per cm^2 density in a reactor channel. The stable phosphorus isotope was turned into radioactive P^{32} whose distribution in the film was studied in a single-channel B-2 analyzer by the method of taking off the layers. The nature of the resulting distribution curves is discussed. From the author's abstract. [Translation of abstract]

SUB CODE: 09, 11

Card 1/1 UDC: 621.315.592:548.552:546.28:548.28

ACC NR: AP6015611 SOURCE CODE: UR/0020/66/169/002/0325/0327

AUTHOR: Starodubtsev, S. V. (Academician AN UzSSR); Pozharov, S. L.; Chernov, I. G.; Knopov, V. M.

ORG: None

TITLE: Ionic composition of the positive column of the glow discharge in inert gases at increased pressures

SOURCE: AN SSSR. Doklady, v. 168, no 2, 1966, 325-327

TOPIC TAGS: ion, complex ion, positive ion, glow discharge, glow discharge ion composition

ABSTRACT: The present paper communicates some results of glow discharge studies in inert gases with the addition of mercury vapor, in the pressure range of from 5 to 50 mm Hg. Measurement were made with the use of a mass spectrometer constructed especially for the research on ionic processes at high pressures, described before by the authors (Izv. AN UzSSR, 4, 59; 1963). Glow discharge in helium and in argon was studied. The partial pressure of mercury was in both cases approximately 10^{-3} mm Hg. Helium underwent a preliminary purification by adsorption in liquid air cooled silica gel. Previous work by these writers (Doklady AN SSSR, 163, No.1, 155;1955), has established the development of conditions favorable to the occurence and stabilization of complex ions. These occured at pressures over 5 mm Hg. At lower pressures, the complex ions

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UDC: 537.525

ACC NR: AP6015611

were, as a rule, not observed. Numerous results of the present research are discussed, with comments and interpretation of possible causes. The main point of interest is the discovery of a heavy complex ion, with a mass spectrometer record peak corresponding to mass number 404, and a 1% intensity relative to the Ar^+ peak. This heavy ion was identified as the Hg_2^+ molecular complex ion. A considerable content of ions with a mass number of 9 was also observed; this was interpreted as the He_2H^+ complex ion. Orig. art. has 9 formulas.

SUB CODE: 20/ SUBM DATE: 11Oct65/ ORIG REF: 002/ OTH REF: 007

Card 2/2

ACC NR: AT7003647 SOURCE CODE: UR/0020/67/172/001/0080/0082

AUTHOR: Lenchenko, V. M.; Starodubtsev, S. V. (Academician AN UzSSR)

ORG: none

TITLE: Energy structure of a cascade of collisions of identical particles in a decelerating medium

SOURCE: AN SSSR. Doklady, v. 172, no. 1, 1967, 80-82

TOPIC TAGS: particle collision, radiation physics, radiation chemistry, cascade, spectral energy distribution, ionization potential

ABSTRACT: The purpose of the article is to present a quantitative description of the secondary processes occurring in collisions between penetrating particles and a medium, and to explain their role in radiation-physical and radiation-chemical effects. To this end the authors determined the energy spectrum of the cascade particles as a function of the energy of the initial cascade particles and of the decelerating ability of the medium. The energy spectrum of the cascade is characterized by a certain function expressing the total range of the cascade particles of a given species having an energy in a given interval. An integral equation is derived for this function with account taken of the cascade multiplication. This equation differs in principle from a similar equation derived earlier (Paper at the First Conference on Radiation Physics of Solids, October, 1965, Kiev) for a cascade of atom-atom collisions, and makes it possible to obtain a more adequate approximation than before.

Card 1/2 UDC: 539.2: 539.16.04

ACC NR: AP7003647

In particular, it allows for the energy lost by the cascade particles for long-rate collisions. The integral equation so derived is used to calculate the energy distribution function of the electrons in a cascade of electron-electron collisions in a decelerating medium. By way of illustration it is shown that one electron with energy $E = 5 \times 10^5$ ev for a medium whose average ionization potential is close to 1 ev produces 1.2 electrons with energy 10^5 ev, 70 electrons with energy 10^3 ev, and 4×10^3 electrons with energy 10^2 ev. The accuracy of the method depends strongly on the accuracy with which the ionization potential is known. Orig. art. has: 16 formulas.

SUB CODE: 20/ SUBM DATE: 01Jun66/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AP7013697 SOURCE CODE: UR/0367/67/005/002/0250/0254

AUTHOR: Begzhanov, R. B.; Islamov, A. A.; Starodubtsev, S. V. -- Starodubcev, S. V.

ORG: Nuclear Physics Institute, AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Nuclear resonance fluorescence of Sm^{152}: Nature of the 963 keV (1-) level

SOURCE: Yadernaya fizika, v. 5, no. 2, 1967, 250-254

TOPIC TAGS: resonance scattering, nuclear resonance, Gamma quantum, even even nucleus, samarium, fluorescence

SUB CODE: 20

ABSTRACT: The resonance scattering of γ-quanta is used to investigate the 963 keV 1^- level in Sm^{152}. The use of low temperatures (78° K) enhanced the absorption effect and made it possible to determine with good accuracy the life time $\tau = (5.15 \pm 0.50) \times 10^{-14}$ sec of the level by the self-absorption method. An attempt is made to find certain regularities in the behaviour of the nuclear matrix elements and the probabilities of E1 transitions in even-even nuclei. Orig. art. has: 2 figures, 2 formulas and 2 tables. [Based on authors' Eng. Abst.] [JPRS: 40,570]

Card 1/1

0933 2162

SEYDAKHMATOV, O.; STARODUBTSEV, V.; BALBAKOV, M.

[Labor productivity in the agriculture of Kirghizistan] Proizvoditel'nost' truda v sel'skom khoziaistve Kirgizii. Frunze, Kirgizskoe gos. izd-vo, 1961. 88 p. (MIRA 14:11)
(Kirghizistan—Agriculture)

STARODUBTSEV, V.; MIKHAELYAN, V.M.

Determining the crystallization parameters of vitreous selenium. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 7 no.3: 74-75 '63. (MIRA 16:8)

1. Fiziko-tekhnicheskiy institut AN UzSSR.

STARODUBTSEV, V.L., inzh.; KONDRASHEV, F.S., inzh.; LYAPIN, D.P., inzh.; OPREDELENNOV, B.Ye., inzh.

Effect of the worked-out level on the gas conditions of the underlying block. Sbor.DonUGI no.20:59-76 '61. (MIRA 15:6)
(Mine gases)

STARODUBTSEV, V. K.

"The composition of milk and the quality of cheese when various quantities of sunflower oil-cake are added to the diet of cows." Moscow Order of Lenin Agricultural Academy imeni K. A. Timiryazev. Moscow, 1956. (Dissertations for the Degree of Doctor of Agricultural Science)

So: Knizhnaya letopis', No. 16, 1956

USSR / Farm Animals. Cattle. Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7320

Author : Starodubtsev, V.M.
Inst : Not given
Title : A Surplus of Concentrates in Rations Increases the Acidity of Milk

Orig Pub : Molochn i myasn. zhivotnovodstvo, 1958, No 2, 36-39

Abstract : As cows were fed an average of up to 700 g of concentrates per 1 liter of milk yield without juicy feeds being added, milk acidity increased up to 23.5 percent according to Terner; if concentrates are reduced to 272 g and 19.8 kg of potatoes are simultaneously fed, milk acidity becomes normal on the 11th day.

Card 1/1

STARODUBTSEV, V.M.

Quality of milk and cheese in relation to the inclusion of sunflower meal in cattle rations. Izv.vys.ucheb.zav.; pishch. tekh. no.2:34-39 '59. (MIRA 12:8)

1. Ryazanskiy sel'skokhozyaystvennyy institut.
(Dairy products) (Sunflower seed meal)

STARODUBTSEV, Viktor Sergeyevich; ORUZBAYEV, A.U., otv. red.; KOVAL'CHUK, V.V., red.; ANOKHINA, M.G., tekhn. red.

[Specialization and intensification of animal husbandry on collective farms in Kirghizia]Spetsializatsiia i intensifikatsiia skotovodstva v kolkhozakh Kirgizii. Frunze, Izd-vo Akad.nauk Kirgizskoi SSR, 1962. 77 p. (MIRA 16:3)
(Kirghizistan--Stock and stockbreeding)

SEYDAKHMATOV, O.; KAZAKOV, I.G.; STARODUBTSEV, V.S.; GREBENNIKOVA, L.A.; BALBAKOV, M.; LEVITUS, B.I., red.izd-va; ORUZBAYEVA, A.U., kand. ekon. nauk, red.; ANOKHINA, M.G., tekhn. red.

[Distribution and specialization of agriculture in the suburban zone of Frunze] Razmeshchenie i spetsializatsiia sel'skogo khoziaistva prigorodnoi zony g.Frunze. Frunze, Izd-vo Akad. nauk Kirg.SSR, 1962. 181 p. (MIRA 16:7)
(Frunze region--Agriculture)

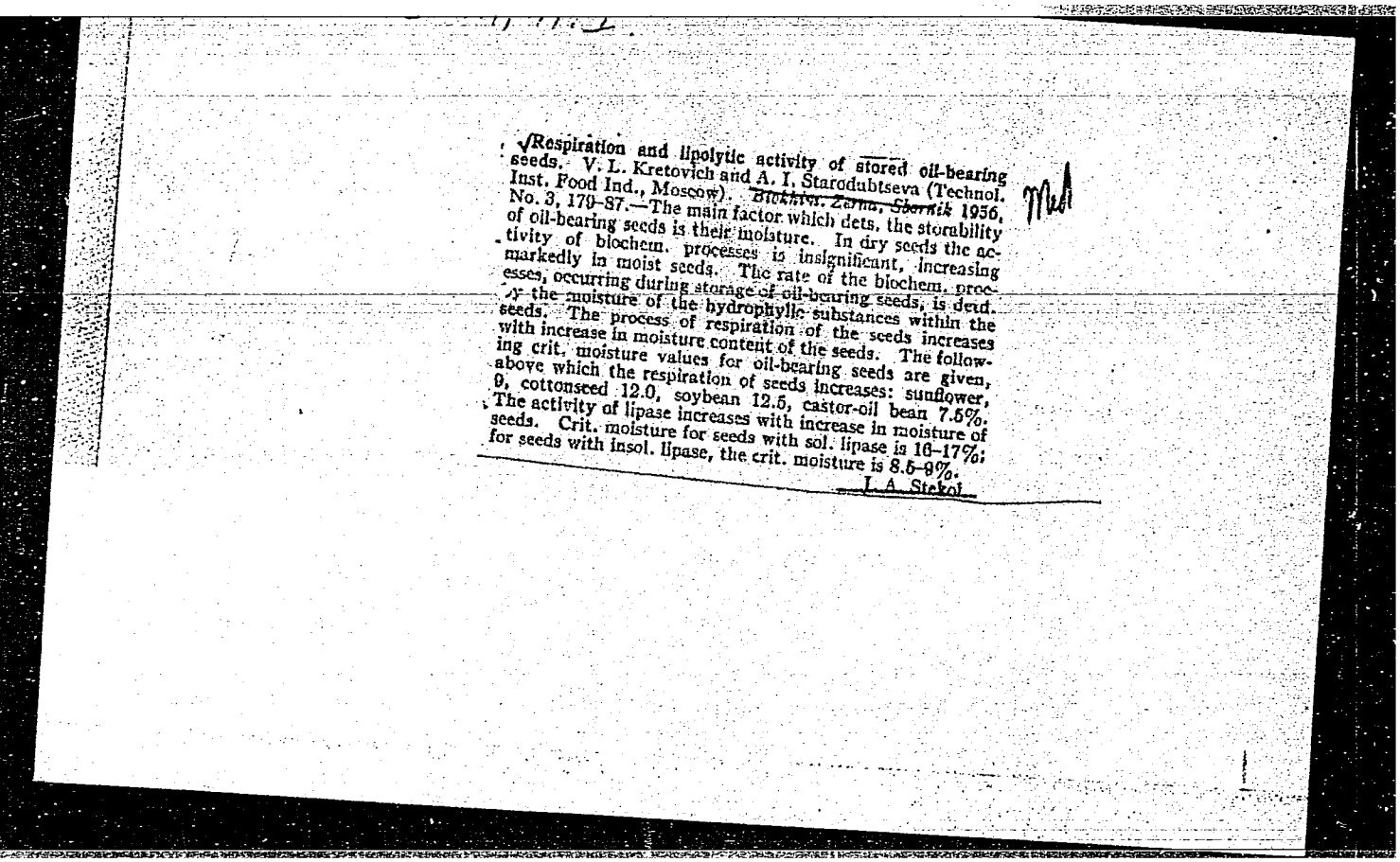
STARODUBTSEV, V.S.

Prospects for nonferrous casing. Izv.vys.ucheb.zav.; geol.i razv. 7 no.8:112-122 Ag '65. (MIRA 18:11)

1. Sverdlovskiy gornyy institut im. V.V.Vakhrusheva.

"Biochemical Principles of the Storing of Olive Oils." Cand Tech Sci, Moscow Technological Inst of the Food Industry, Moscow, 1953, Dissertation (Referativnyy Zhurnal--Khimiya, Moscow, No. 2, Jan 54)

SO: SUM 124, 15 Aug 1954



√Respiration and lipolytic activity of stored oil-bearing seeds. V. L. Kretovich and A. I. Starodubtseva (Technol. Inst. Food Ind., Moscow). *Biokhim. Zerna, Sbornik* 1956, No. 3, 179–87.—The main factor which dets. the storability of oil-bearing seeds is their moisture. In dry seeds the activity of biochem. processes is insignificant, increasing markedly in moist seeds. The rate of the biochem. processes, occurring during storage of oil-bearing seeds, is dependent the moisture of the hydrophylic substances within the seeds. The process of respiration of the seeds increases with increase in moisture content of the seeds. The following crit. moisture values for oil-bearing seeds are given, above which the respiration of seeds increases: sunflower, 9, cottonseed 12.0, soybean 12.5, castor-oil bean 7.5%. The activity of lipase increases with increase in moisture of seeds. Crit. moisture for seeds with sol. lipase is 16–17%; for seeds with insol. lipase, the crit. moisture is 8.5–9%.

I. A. Stekol

STARODUBTSEVA, A.I.

Hygroscopic properties and balanced moisture content of oilseeds. Izv.vys.ucheb.zav.; pishch.tekh. no.4:36-39 '59. (MIRA 13:2)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti. Kafedra elevatorno-skladskogo khozyaystva i khraneniya zerna.

(Oilseeds)

STARODUBTSEVA, A.I.; VETKINA, Ye.A.; KRETOVICH, V.L.

Respiration intensity in sunflower seeds as a function of oil content. Biokhim.zerna no.5:256-262 '60. (MIRA 14:5)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti.
(Sunflower seeds) (Plants—Respiration)

KRETOVICH, V.L.; MORGUNOVA, Ye.A.; STARODUBTSEVA, A.I.

Effects of heating on the physiological and biochemical properties of sunflower seeds. Masl.-zhir.prom. 26 no.2: 8-11 F '60. (MIRA 13:5)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti.
(Sunflower seed)

STARODUBTSEVA, A.I.

"Scientific bases for the preservation and processing of corn" by M.G.Golik. Reviewed by A.I.Starodubtseva. Biokhimiia 27 no.4:758-759 Jl-Ag '62. (MIRA 15:11)

(CORN (MAIZE)) (GOLIK, M.G.)

CHEKHOVICH, V.D.; SOLOV'YEVA, M.N.; ZHELEZNOV, V.M.; RYVKIN, M.L.; STARODUBTSEVA, A.S.; STUKOVA, K.V.; URMANOV, Kh.Kh.

New data on the Devonian of Kyzyl-Kum. Dokl.AN SSSR 107 no.1: 149-150 Mr '56. (MLRA 9:7)

1.Uzbekskoye geologicheskoye upravleniye. Predstavleno akademikom D.V.Nalivkinym.
(Kyzyl-Kum--Geology, Stratigraphic)

STARODUBTSEVA, G. I., MINAYEV, V. M., BAROVA, N. I., GREMPOVSKAYA, A. V., TKACHENKO, N. I., SHAMARINA, A. G., KORCVINA, A. G.

"A study of the natural foci of vernal encephalitis in the western Urals." Page 79

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

Perm' Inst. of Vaccine and Sera and the Oblast Sanitary-Epidemological Station

PSHENICHNOV, A.V.; MINAYEVA, V.M.; STARODUBTSEVA, G.I.

Epidemiology of tick-borne encephalitis in the Urals. Vop.virus. 7 no.6:661-665 N-D '62. (MIRA 16:4)

1. Permskiy institut vaktsin i syvorotok.
(URAL MOUNTAIN REGION--ENCEPHALITIS)

USSR/General Problems of Pathology - Tumors. Comparative Oncology. Human Neoplasms. U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 89640

Author : Starodubtseva, L.N.

Inst : Rostov-on-Don Medical Institute.

Title : Clinical and Morphological Relations Between Gastric Ulcer and Carcinoma.

Orig Pub : Tr. Otchetn. nauchn Konferentsii (Rostovsk-n/D Med. in-t) za 1956 g. Rostov-na-Donu, 1957, 741-744.

Abstract : On the basis of the correlation of clinical data with morphological studies of the structures of the wall of resected stomachs in 50 patients with gastric carcinoma and ulcer, the author confirms that various precancerous conditions precede carcinoma. Of great importance for early diagnosis is the thorough study of anamnesis and of the

Card 1/2

USSR/General Problems of Pathology - Tumors. Comparative Oncology - Human Neoplasms. U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 89640

altered reaction of blood pressure following subcutaneous injection of adrenalin (this reaction was positive in 39 patients), etc.

Card 2/2

RUSAKOV, V.I., kandidat meditsinskikh nauk; STARODUBTSEVA, L.N.

Clinical aspects of primary sarcoma of the lungs. Vest.khir. 78 no.5: 117-120 My '57. (MIRA 10:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. B.Z. Gutnikov) Rostovskogo meditsinskogo instituta. Adres avtorov: Rostov-na-Donu, Nakhichevanskiy pr., d.38, fakul'tetskaya khirurgicheskaya klinika.

(LUNG NEOPLASMS, case reports
sarcoma, clin. aspects)
(SARCOMA, case reports
lungs, clin. aspects)

STARODUBTSEVA, L. N.: Master Med Sci (diss) -- "Clircal and morphological data on the development of stomach cancer from an ulcer". Rostov na Donu, 1959. 18 pp (Rostov na Donu State Med Inst), 200 copies (KL, No 18, 1959, 129)

STARODUBTSEVA, L.N. (Rostov N/D., ul. Engel'sa, d. 83, kv. 27)

Two cancerous tumors of the stomach originating from a polyp and from an ulcer. Vop. onk. 5 no.1:113-115 '59. (MIRA 12:3)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. B.Z. Gutnikov) Rostovskogo-na-Donu meditsinskogo instituta (dir. - prof. Ye. M. Gubarev).

(STOMACH NEOPLASMS, case reports,
adenocarcinomatous tumors originating in polyp & ulcer (Rus))
(PEPTIC ULCER, compl.,
same)
(POLYPI, case reports,
stomach, adenocarcinomatous tumors originating in polyp & ulcer (Rus))

STARODUBTSEVA, L.N., kand. med. nauk; BOGDANOV, B.G., aspirant (Rostov-na-Donu)

Multiple complications in gastric ulcer. Klin. med. 41 no.7: 124-127 Jl'63 (MIRA 16:12)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. B.Z. Gutnikov) Rostovskogo-na-Donu gosudarstvennogo meditsinskogo instituta.

SHARODUBTSEVA, L.N., kand.med.nauk; GOTOROV, V.I.

Echinococcosis of the pancreas. Vest. khir. 93 no.12:101 D '64.
(MIRA 18:5)

1. I- fakul'tetskoy khirurgicheskoy kliniki (ispolnyayushchiy obyazannosti zaveduyushchego - prof. V.I.Rusakov) Rostovskogo meditsinskogo instituta (rektor - dotsent Yu.D.Ryzhkov).

STARODUBTSEVA, L.N., kand.med.nauk; SELESKERIDI, S.V.

Gastric cancer associated with lymphatic leukemia. Klin. khir. no.1:53-54 '65. (MIRA 18:8)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. B.Z.Gutnikov) Rostovskogo meditsinskogo instituta.

BYLLO, G.I., inzh.; KORASIN, M.Ye., inzh.; KRONFEL'D, B.D., inzh.; SEMIN, D.P., inzh.; STARODUBTSEVA, M.S., inzh., otv. za vyp.; KOROTKIY, I.A., tekhn. red.

[Technical information; production on movable stands of prestressed reinforced-concrete beams, transportable in one piece, with a span of 33.5 m. for railroad loads] Tekhnicheskaia informatsiia; izgotovlenie na podvizhnykh stendakh tsel'noperevozimykh zhelezobetonnykh predvaritel'no napriazhennykh balok proletnykh stroenii proletom 33,5 m. pod zheleznodorozhnuiu nagruzku (Opyt Mostootriada-10 ordena Lenina Mostotresta). Moskva, Orgtransstroi, 1963. 20 p. (MIRA 16:11)
(Prestressed concrete construction)
(Beams and girders)

STARODUBTSEVA, M.S., inzh.

Tunnel builders and subway constructors at the Exhibition of the Achievements of the National Economy. Transp. stroi. 15 no.11:51 N '65, (MIRA 18:11)

VAL'DMAN, L.; STARODUBTSEVA, O.; OPRYATOVA, V.

Photoelectric observations of Mrkos' comet. Astron.tsir. no.185:1-2 O '57. (MIRA 11:4)

1.Astronomicheskaya observatoriya Khar'kovskogo universiteta.
(Comets--1957)

BUYANOV, N.V., kandidat tekhnicheskikh nauk, redaktor; GENEROZOV, B.A., redaktor; DYMOV, A.M., professor, doktor,retsenzent; TROITSKAYA, M.I., kandidat khimicheskikh nauk, retsenzent; STARODUBTSEVA, S.N. redaktor.

[Modern methods of analysis in metallurgy] Sovremennye metody analiza v metallurgii, Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chornoi i tsvetnoi metallurgii, 1955 222 p. (MLRA 9:1)
(Metallurgical analysis)

STARODUBTSEVA, S.N.

UMANSKIY, Yakob Semenovich; FINKEL'SHTEYN, Boris Nikolayevich; BLANTER Mikhail Yevseyevich; KISHKIN, Sergey Timofeyevich; PASTOV, Nikolay Semenovich; GORELIK, Semen Samuilovich; STARODUBTSEVA, S.N., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor.

[Physical principles in the study of metals] Fizicheskie osnovy metallovedeniia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 721 p. (MLRA 8:8)
(Metals)

L 07062-67 EWT(m) IJP(c)
ACC NR: AP6021624 (N) SOURCE CODE: UR/0089/66/020/003/0220/0223

AUTHOR: Zinin, E. I.; Korobeynikov, L. S.; Kulipanov, G. N.; Lazarenko, B. L.; Matveyev, Yu. G.; Popov, S. G.; Skrinskiy, A. N.; Starodubtseva, T. P.; Tumaykin, G. M.

ORG: none

TITLE: Control and regulation system for the electron beam parameters in the VEP-1 electron-electron storage ring

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 220-223

TOPIC TAGS: electron beam, electron accelerator, storage ring, plasmoid acceleration, synchrotron radiation

ABSTRACT: The authors describe briefly the main systems used for different stages of adjustment and physical research of the VEP-1 assembly, first described by G. I. Budker et al. (Atomnaya energiya v. 19, 498, 1965). The parameters investigated were the magnitude of the injected current, the angular divergence and transverse dimensions of the beam, its energy and energy spread, and the position and angle at the exit from the electron-optical channel. The number of injected particles and the phase difference between the input and output were measured with lead probes. The first revolutions of the captured current were observed by recording the synchrotron radiation with a photomultiplier. The captured and stored currents were also measured with the aid of the synchrotron radiation. The radial position of the orbits was controlled either by regulating their radii by changing the frequency of the accelerating

Card 1/2 UDC: 621.384.6

L 07062-67

ACC NR: AP6021624

voltage or by producing azimuthal modifications of the magnetic field with additional turns. The positions of the orbits at the collision location were roughly monitored by means of an optical television system, and more accurately by a remotely controlled diaphragm located at the place of encounter. The systems used to measure the luminosity, to control the radial and azimuthal positions of the plasmoids, to determine the phase dimensions of the plasmoids, and to monitor and study various coherence effects are briefly described. The lifetime of the beam was monitored continuously with a special electronic system which determined the logarithmic derivative of a signal proportional to the current in the track. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 22Nov65/ ORIG REF: 001/ OTH REF: 001

Card 2/2

ACC NR: AT7004848 SOURCE CODE: UR/3226/65/000/000/0001/0008

AUTHOR: Pirushkin, Ye. A., Starodubtseva, T. P.

ORG: none

TITLE: Device for measuring the parameters of coherent radial-phase oscillations in storage units of equipment with clashing beams

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Preprint, 1965. Pribor dlya izmereniya parametrov kogerentnykh radial'no-fazovykh kolebaniy v nakopitelyakh ustanovok so vstrechnymi puchkami, 1-8 and inserts following p. 8

TOPIC TAGS: nuclear physics, nuclear physics apparatus, harmonic oscillation, harmonic phase displacement, electron bunch, coherent radial phase oscillation, electron storage unit, storage unit/VEPP-2 storage unit

ABSTRACT: The method described measures phase displacement between the first harmonics of a signal induced by an electron bunch on an electrostatic electrode and by voltage applied to a resonator within a range of 0 to 360°, with an accuracy of 0.5° and at a resolving power of 0.1°. The method is designed

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STARODUBTSEVA, Ye.I., nauchnyy sotrudnik

Prosthesis of the conjunctival cavity in children. Oft. zhur. 16 no.2:96-99 '61. (MIRA 14:3)

1. Iz Ukrainskogo nauchno-issledovatel'skogo eksperimental'nogo instituta glaznykh bolezney i tkanevoy terapii imeni akademika V.P.Filatova (direktor - prof. N.A.Puchkovskaya).
(EYE—TRANSPLANTATION)

STARODUBTSEVA, Ye.I., nauchnyy sotrudnik

Morphological changes in a rib cartilage in homoplastic implantation into Tenon's capsule. Oft.zhur. 17 no.7:416-423 '62. (MIRA 16:3)

1. Iz Ukrainskogo nauchno-issledovatel'skogo eksperimental'nogo instituta glaznykh bolezney i tkanevoy terapii imeni akademika V.P. Filatova (dir. - chlen-korrespondent AMN SSSR prof. N.A. Puchkovskaya).
(CARTILAGE—TRANSPLANTATION) (EYE—SURGERY)

KURILENKO, A.I.; SHIRYAYEVA, G.V.; KARPOV, V.L.; Prinimala uchastiye: STARODUBTSEVA, Ye.V.

Adhesion of radiation-hardened polyester resins to highly oriented organic fibers. Vysokom.soed. 7 no.10:1707-1712 O '65. (MIRA 18:11)

1. Filial Fiziko-khimicheskogo instituta imeni L.Ya.Karpova.

STARODUMOV, A. M.

STARODUMOV, A. M.: "Variability of the English Oak Under the Conditions of the Shipov Forest and the Selection of its High-Quality Ecotypes and Forms." Acad Sci USSR. Far East Affiliate imeni V. L. Komarov. Vladivostok, 1956. (Dissertation for the Degree of Candidate in Agricultural Science)

So: Knizhnaya Letopis' No. 18, 1956

L 25392-65 EWT(1)/EEC(t) Peb IJP(c)

ACCESSION NR: AP5002157 S/0120/64/000/006/0089/0093

AUTHOR: Borovitskiy, S. I.; Starodumov, M. N.; Tiflov, V. I.

TITLE: Control unit for an outfit for detecting a nuclear magnetic resonance by the spin-echo method

SOURCE Pribory i tekhnika eksperimenta, no. 6, 1964, 89-93

TOPIC TAGS: nuclear magnetic resonance, spin echo method

ABSTRACT: When master-oscillator pulses with period τ_0 are applied to the input of the control unit (see Enclosure 1), one of these four programs is formed at the output: (1) Program I which corresponds to the method of detecting spin-echo signals described by H. Y. Carr, et al. (Phys. Rev., 1954, 94, 630); (2) Program II produces two pulses with a variable distance between them; if the first pulse turns the magnetic moment through 90° and the second pulse, through 180°, the method permits determining T_2 and D; the pulses 180°, 90° and 90°, 90°

Card 1/3

L 25392-65

ACCESSION NR: AP5002157

permit determining T_1; (3) Program III yields three 90° pulses used for determining T_1; the interval between the first two pulses is τ_0 while the third pulse can be shifted; (4) Program IV yields two pairs of pulses with τ_0 interval within each pair and a variable distance between the pairs; this program is particularly suitable for measuring T_1 of the order of tens or hundreds of seconds. Tests showed that the control unit operates reliably with input pulses of 4—17 v 0.1-msec or more duration in a period of repetition 30 msec or longer. The output-pulse amplitude was about 60 v, their duration, within 1—160 microsec. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 12Dec63 ENCL: 01 SUB CODE: NP

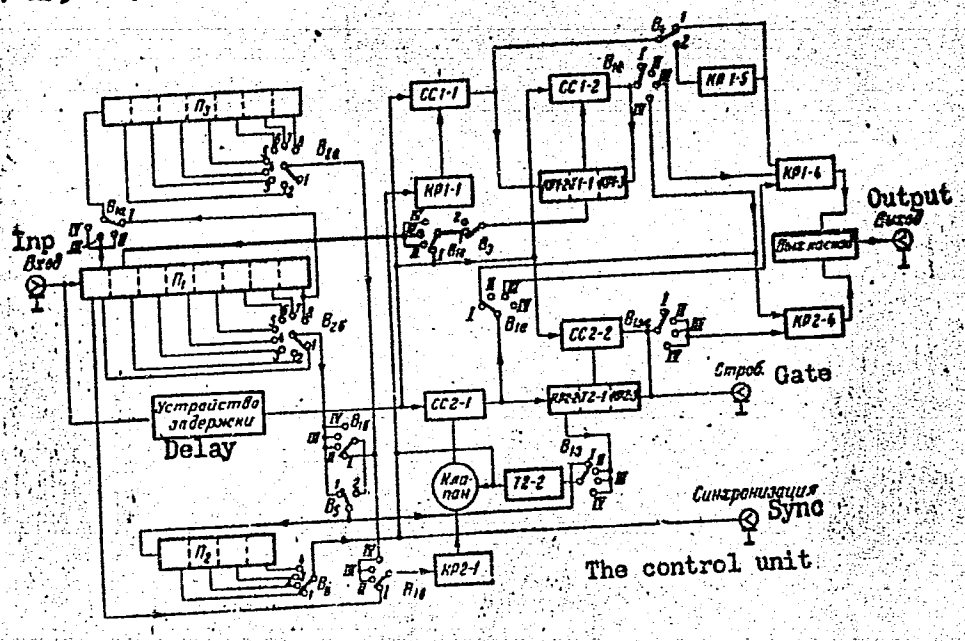
NO REF SOV: 002 OTHER: 012

Card 2/3

L 25392-65

ENCLOSURE: 01

ACCESSION NR: AP5002157



Card 3/3

BOROVITSKIY, S.I.; STARODUMOV, N.N.; TIFLOV, V.I.

Guidance system of an apparatus for observing nuclear magnetic resonance by the spin echo method. Prib. i tekh. eksp. 9 no.6: 89-93 N-D '64. (MIRA 18:3)

VASIL'YEV, Yu.M., kand.tekhn.nauk; STARODUMOV, Yu.M., inzh.

New self-propelled rollers on pneumatic tires. Avt. dor. 24 no.10:15-17 O '61. (MIRA 14:11)
(Road rollers)

STARODUMOV, Yu.N., inzh.

VTG-2 and VKG-2 automatic height finder for surveying highways.
Avt. dor. 21 no. 7:25-27 Jl '58. (MIRA 11:8)
(Surveying--Instruments)

SOV/154-59-3-9/19

3(4)
AUTHOR: Starodumov, Yu. N., Post-graduate Student

TITLE: On the Accuracy of Levelling With the Automatic Altimeter According to the System by M. M. Gubin (O toohnosti nivelirovaniya vysotomerom-avtomatom sistemy M. M. Gubina)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"-yemka, 1959, Nr 3, pp 99 - 107 (USSR)

ABSTRACT: The automatic VTG-2 type tachometer of M. M. Gubin's system was tested by the author of the present paper; it consists of a TT-30 theodolite with an attachment instead of the vertical circle, and is shown in figure 1. The attachment contains a simple sinusoidal computer friction mechanism, by the aid of which it is possible to determine automatically the altitudes or the superelevations of the observation points with respect to the initial points. For the mechanical solution of the mathematical formula $h = k \cdot l \cdot \sin\nu$ a sphericocylindrical friction system shown in figure 2 is used in the tacheometer. The main parts of the mechanism mentioned are: a spherical segment, which is tightly linked to the telescope, and the meter roll which is tightly linked to the level tube. The mode of operation of

Card 1/3

this mechanism is explained. The theory of the altimeter in question is given in the book by M. M. Gubin (Ref 1), and in the geodetic textbook by P. I. Shilov. The device submitted to investigation was provided with a meter roll with changed working surface. The friction mechanism was checked before field testing. After 20000 cycles, traces of wear became visible on the surface of the spherical segment, but the accuracy of the instrument was not impaired. Field testing was made in August 1957 on a narrow-gauge railroad section under construction. The test procedure is described. The automatic determination of the superelevations by the instrument according to the "method from the center" does not depend on the sighting height. This makes it possible to carry out a reliable control of the measurements by repeated sighting with changed observation height. Table 1 specifies the superelevation data obtained by the aid of the levelling instrument, and those obtained by the aid of the automatic altimeter. Similar results in the interpretation of data were obtained also by I. S. Lomonosov (Povolzhskiy lesotekhnicheskiy institut, g. Yoshkar-Ola (Povolzh'ye Wood Technology Institute, Town Yoshkar-Ola)). The automatic VTG-2 alti-

On the Accuracy of Levelling With the Automatic Altimeter According to the System by M. M. Gubin

SOV/154-59-3-9/19

meter tested yielded an accuracy of the altitudes determined, which agreed more or less with the data available. The automatic altimeters by G. Yu. Stodolkevich and M. M. Gubin exhibit a similarity as to the utilization of a friction mechanism; but their principle is different. The first one is less accurate because of the causes specified here, due to construction. The application of the sphericocylindrical friction system made it possible to eliminate these deficiencies in the Gubin device. The utilization of a roll with an optimum curvature of the working part made it possible to increase accuracy even further. There are 4 figures, 2 tables, and 5 Soviet references.

ASSOCIATION: Leningradskaya lesotekhnicheskaya akademiya im. S. M. Kirova (Leningrad Academy of Wood Technology imeni S. M. Kirov)

SUBMITTED: October 1, 1958

Card 3/3

STARODUMOV, Yu.N., inzh.

Mechanical borer-core lifter for removing soil samples. Avt.dor. 24 no.5:21-22 My '61. (MIRA 14:6)

(Boring machinery)

STARODUMOV, Yu. N.

Mechanized drill for taking soil and ground samples with intact structure. Pochvovedenie no.7:110-112 Jl '62. (MIRA 15:10)

1. Vsesoyuznyy gosudarstvennyy dorozhnyy nauchno-issledovatel'skiy institut.

(Soils—Analysis)

STARODUMOV, Yu.N.

Accuracy of automatic altimeter units with a spherical friction system. Geod.i kart. no.12:33-40 D '62. (MIRA 16:2)
(Altimeter)

STARODUMOV, Yu.N.

Choice of a type of converter for a theodolite equipped with a coder. Geod.i kart. no.1:22-26 Ja '63. (MIRA 16:2)
(Theodolites—Equipment and supplies)

VLADISLAVSKIY, V.; OVCHARENKO, M.; STARODUMOVA, A.

Requirements of consolidated automotive transportation units. Avt.-transp. 40 no.2:53 F '62. (MIRA 15:2)

1. Partiynoye byuro Ufaleyskogo avtokhozyaystva.
(Transportation, Automotive)

STARODUMOV, Yu.N., kand.tekhn.nauk

Latticed roller for soil compaction. Stroi. i dor. mash. 7 no.8:16-18 Ag '62. (MIRA 15:9)
(Rollers (Earthwork))

KHODORKINA, A.A., dotsent; RASSANOVA, T.A., assistent; STARODUMOVA, Z.N., assistent.

Saprepelic mud therapy in noninfectious internal diseases in farm animals and poultry. Veterinariia 32 no.12:49-52 D '55.

1.Sverdlovskiy sel'skokhozyzystvennyy institut.
(EARTHS, MEDICAL AND SURGICAL USES OF)(VETERINARY MEDICINE)

ABRAMOVICH, Mikhail Il'ich; STARODUBTSEV, Mikhail Tikhonovich; VORONOVSKAYA, Ye.V., prof., red.

[Collection of mathematical problems with examples of solutions; supplement to the textbook] Sbornik zadach po matematike s obraztsami reshenii; dopolnenie k uchebnomu posobiiu. Por red. E.V.Voronovskoi. Leningrad, 1965. 205 p. (MIRA 19:1)

L 05794-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW

ACC NR: AP6030546 SOURCE CODE: UR/0413/66/000/016/0017/0017

INVENTOR: Plyatskovskiy, O. A.; Khokhlov-Nekrasov, O. G.; Umerenkov, V. N.; Starodvorskiy, V. S.; Grigor'yev, L. F.

31
B

ORG: none

TITLE: Method of rolling pipe. Class 7, No. 184790

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 17

TOPIC TAGS: metal rolling, rolling mill, pipe, pipe rolling, mandrel

ABSTRACT: An Author Certificate has been issued describing a method for rolling pipe on a graduated mandrel (see Fig. 1). To ensure the potentialities of rollint the thin-walled pipes and pipes with a graduated diameter, the mandrel, freely moving in rollers together with the pipe, is fixed with regard to one of the ends of the rolling sleeve pipe, such as the flange, or it is moved periodically in a definite plan. The mandrel has a flange at one end, the diameter of which is greater than the inside diameter of the sleeve but is smaller than the outside diameter of the pipe, while the diameter of its other end is smaller than the inside

Card 1/2 UDC: 621.774.3

L 05794-67

ACC NR: AP6030546

diameter of the pipe. Orig. art. has: 1 figure. [Translation]

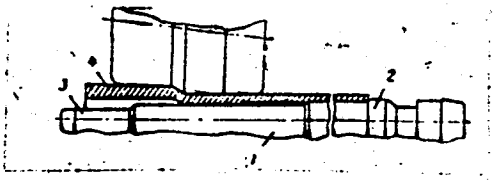


Fig. 1. Pipe rolling mandrel.
1—Mandrel; 2—flange;
3—end with smaller diameter;
4—sleeve pipe

SUB CODE: 13/ SUBM DATE: 02Sep63/

Card 2/2

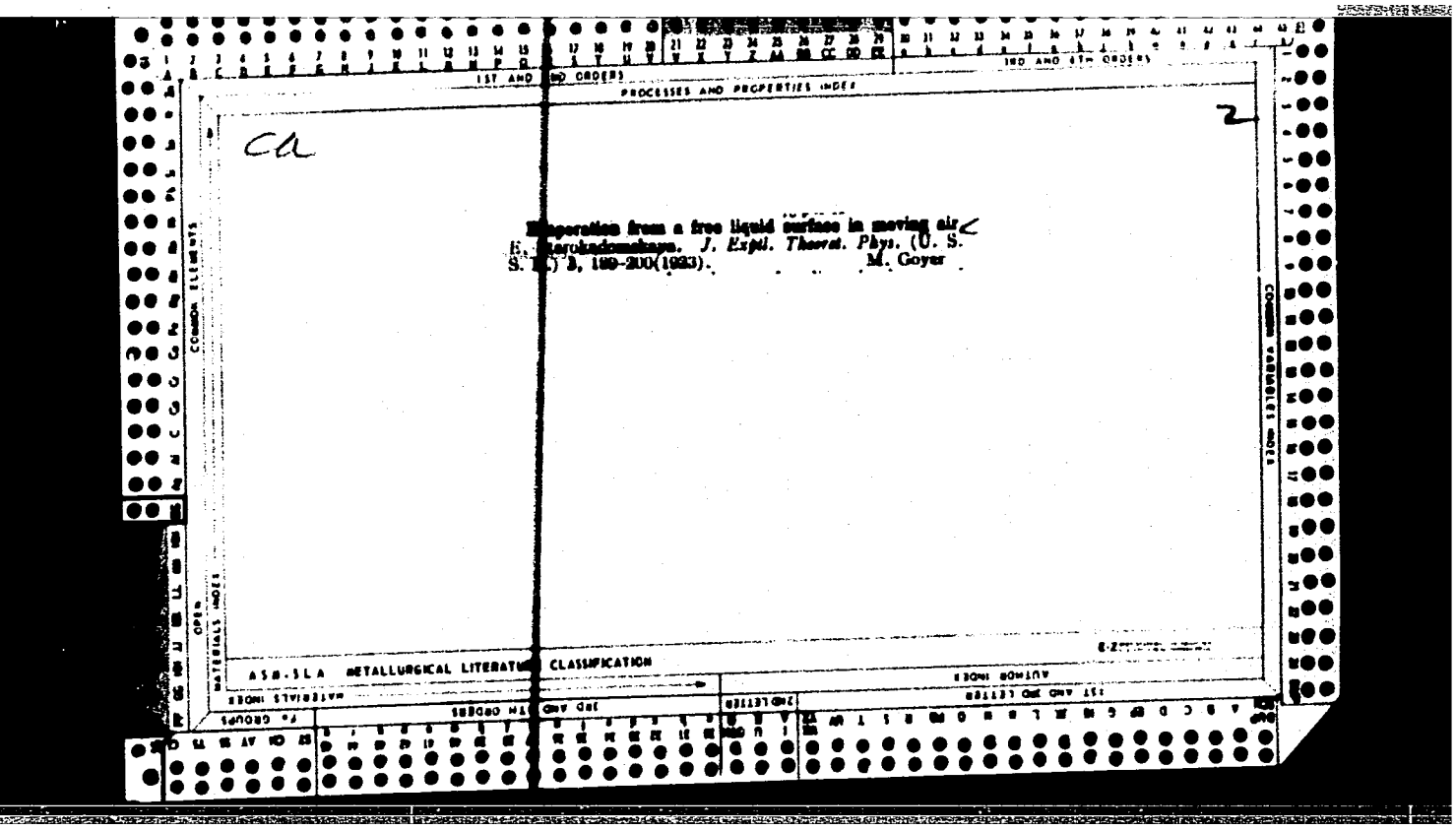
STAROGORODSKIY, Nikolay Nikolayevich; KARPOV, Yevgeniy Vasil'yevich; IVANOV, G., red.; DANILINA, A., tekhn.red.

[Volga giant] Volzhskii gigant. Moskva, Gos.izd-vo polit. lit-ry, 1959. 78 p. (MIRA 12:12)
(Stalingrad Hydroelectric Power Station)

BEGZHANOV, R.B.; RAKOVITSKIY, S.L.; STARODUBTSEV, S.V.

E2-transitions from the 3 level of even-even nuclei. Izv. AN Uz.SSR. Ser. fiz.-mat. nauk 9 no.5:36-48 '65. (MIRA 18:11)

1. Institut yadernoy fiziki AN UzSSR. Submitted March 2, 1964.



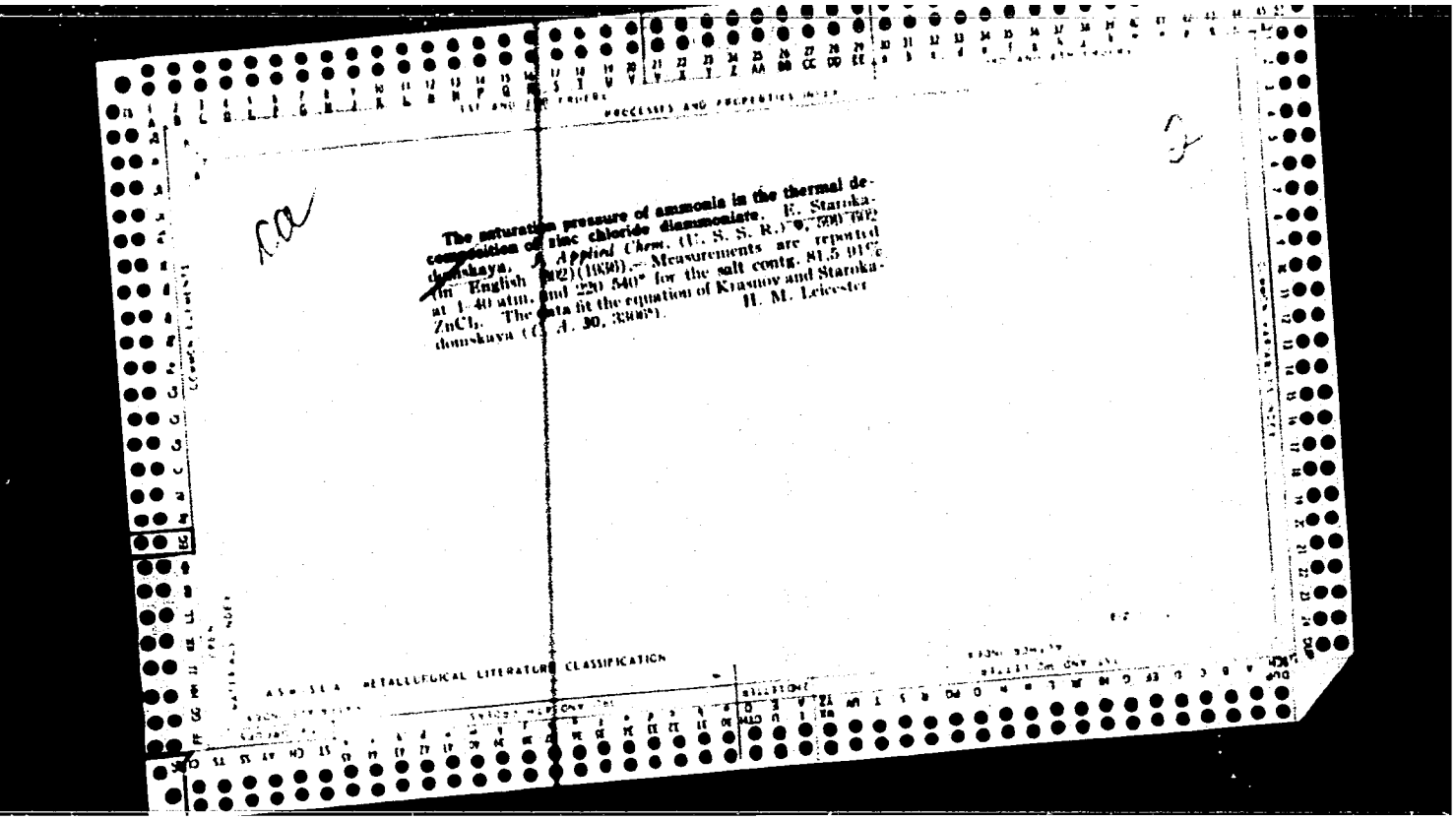
CA

2

PROCESSES AND PROPERTIES INDEX

Thermodynamic properties of zinc chloride ammoniates in the liquid and vapor phases. A. Krasnov and E. Starodomskaya. *Izvestiya Teplotekh. Inst.* 1935, No. 11, 1-9.—The investigation was made to supply data needed for calcg. power problems based on the evapn. of Zn ammoniates used in driving power-producing equipment. The results are presented in tables and diagrams. Seven references. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The saturation pressure of ammonia in the thermal decomposition of zinc chloride diammoniate. E. Starokadomskaya. *J. Applied Chem.* (U. S. S. R.) 9, 990-992 (in English 992)(1936).—Measurements are reported at 1–40 atm. and 220–540° for the salt contg. 81.5–91% $ZnCl_2$. The data fit the equation of Krasnov and Starokadomskaya (*C. A.* 30, 3300⁹). H. M. Leicester

1ST AND 2ND ORDERS

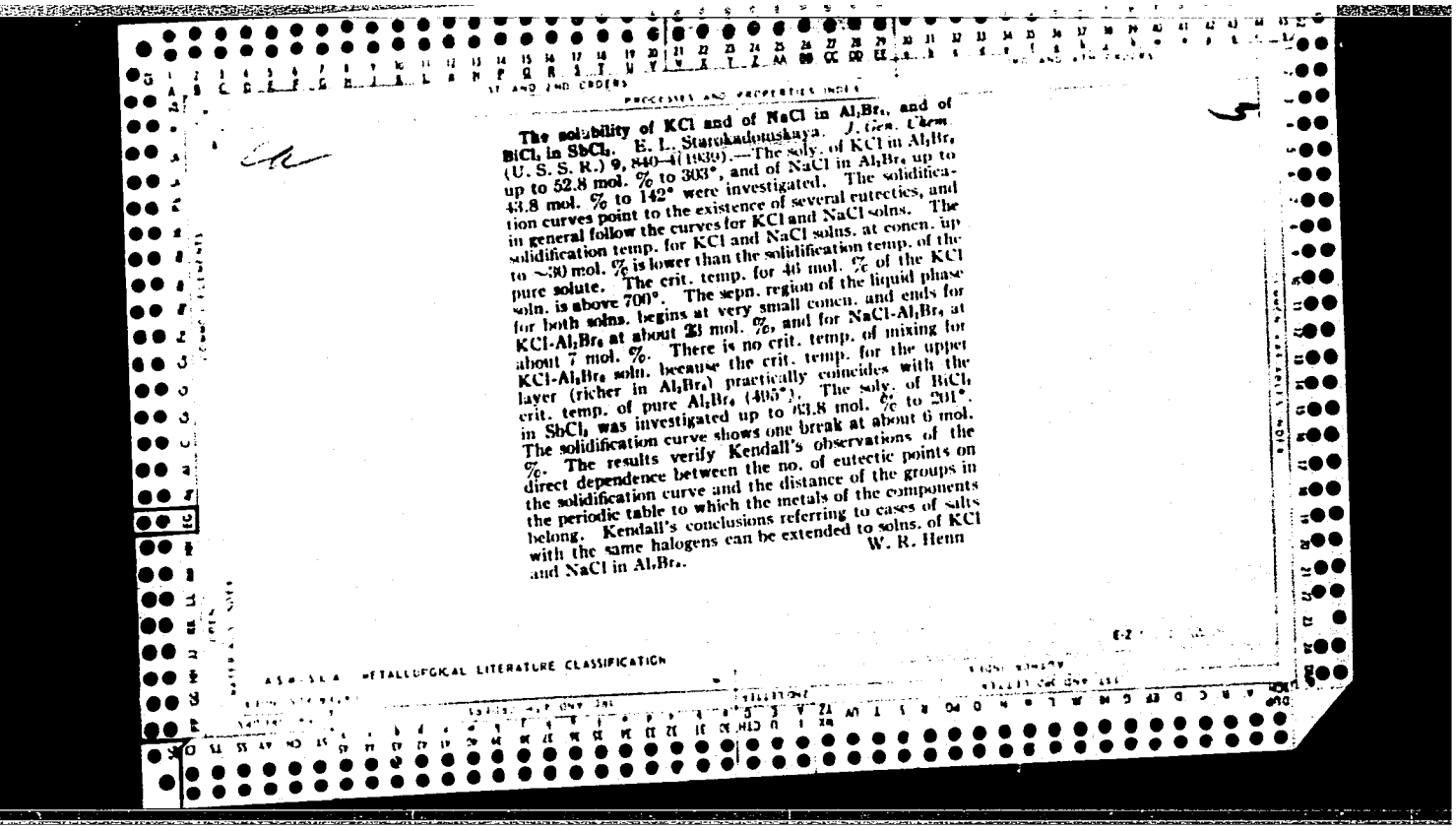
PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Thermal decomposition of diphenyl ether. K. Starokadomskii. *J. Applied Chem.* (U. S. S. R.) 11, 840-
50 (in French 851) (1938).—Distd. Ph_2O (2-4 cc.) was
heated in sealed glass ampoules (7-12 cc. capacity) at
440°, 460°, 480° [illegible] for 16-60 hrs. Before sealing
the ampoules [illegible] air was removed by freezing
and boiling. At the end of a specified time, the ampoules
with their contents were cooled and the residual pressure
in them was measured. The d. of the liquid phase was
measured with a pycnometer and the liquid phase was
fractionated. The data obtained were plotted. The
curves of residual pressure for 460° and higher temp.
disclose that the [illegible] of decompn. is accelerated with
time, probably because of the secondary reactions,
[illegible] further decompn. of the products of the initial
decompn. The curve of residual pressure for 440° (the
initial decompn.) had characteristics of a reaction of the first
order with the velocity const. equal to 0.01475. The
heat of reaction for the 440-480° interval was calcd. to be
equal to 85,150 cal./mol. Ph_2O is not recommended for
use in industry as the heat carrier at temps. above 440°.

A. A. Podgorny

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



The solubility of KCl and of NaCl in Al_2Br_6, and of $BiCl_3$ in $SbCl_3$. E. L. Starokadomskaya. *J. Gen. Chem.* (U. S. S. R.) 9, 840–4 (1939).—The soly. of KCl in Al_2Br_6 up to 52.8 mol. % to 303°, and of NaCl in Al_2Br_6 up to 43.8 mol. % to 142° were investigated. The solidification curves point to the existence of several eutectics, and in general follow the curves for KCl and NaCl solns. The solidification temp. for KCl and NaCl solns. at concn. up to ~30 mol. % is lower than the solidification temp. of the pure solute. The crit. temp. for 46 mol. % of the KCl soln. is above 700°. The sepn. region of the liquid phase for both solns. begins at very small concn. and ends for KCl-Al_2Br_6 at about 23 mol. %, and for NaCl-Al_2Br_6 at about 7 mol. %. There is no crit. temp. of mixing for KCl-Al_2Br_6 soln. because the crit. temp. for the upper layer (richer in Al_2Br_6) practically coincides with the crit. temp. of pure Al_2Br_6 (405°). The soly. of $BiCl_3$ in $SbCl_3$ was investigated up to 63.8 mol. % to 201°. The solidification curve shows one break at about 6 mol. %. The results verify Kendall's observations of the direct dependence between the no. of eutectic points on the solidification curve and the distance of the groups in the periodic table to which the metals of the components belong. Kendall's conclusions referring to cases of salts with the same halogens can be extended to solns. of KCl and NaCl in Al_2Br_6.

W. R. Henn

LANDSBERG, G.S., akademik, redaktor; STAROKADOMSKAYA, Ye.L., redaktor; MURASHOVA, N.Ya., tekhnicheskiy redaktor

[Elementary textbook in physics] Elementarnyi uchebnik fiziki. Izd. 2-oe, perer. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. Vol.1. [Mecanics, heat, molecular physics] Mekhanika, teplota, molekuliarnaia fizika. 1956. 523 p. (MIRA 10:1)
(Physics)

STAROKADOMSKAYA, Ye. L.

IMYANITOV, Il'ya Moiseyevich; STAROKADOMSKAYA, Ye.L., redaktor; AKHLAMOV, S.N., tekhnicheskiy redaktor.

[Instruments and methods for studying electricity in the atmosphere] Pribory i metody dlia izucheniia elektrichestva atmosfery. Moskva, Gos.izd-vo tekhniko-teoret.lit-ry, 1957. 483 p. (MIRA 10:11)
(Atmospheric electricity)

YELINSON, Mordukh Il'ich; VASIL'YEV, Gennadiy Fedorovich; ZERNOV, D.V., red.; STAROKADOMSKAYA, Ye.L., red.; MURASHOVA, N.Ya., tekhn.red.

[Field emission] Avtoelektronnaia emissiia. Pod red. D.V.Zernova. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1958. 272 p. (MIRA 12:2)

1. Chlen-korrespondent AN SSSR (for Zernov).
(Electron emission)

KHAYKIN, S.E., KALASHNIKOV, A.G., ISAKOVICH, M.A., LEONTOVICH, M.A., V.D., SAKHAROV, D.I.; LANDSBERG, G.S., akad., red.; STAROKADOMSKAYA, Ye.L., red.; MURASHOVA, N.Ya., tekhn. red.

[Elementary textbook in physics] Elementarnyy uchebnik fiziki. Izd. 2., Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry. Vol. 1 [Mechanics, heat, and molecular physics] Mekhanika, teplota, molekuliarnaia fizika. 1958. 523 p. Vol. 2.[Electricity and magnetism] Elektrichestvo i magnetism. 1958. 448 p. (MIRA 11:10)

(Physics)

SKANAVI, Georgiy Ivanovich; STAROKADOMSKAYA, Ye.L., red.; MURASHOVA, N.Ya., tekhn. red.

[Physics of dielectrics (in strong fields)] Fizika dielektrikov (oblast' sil'nykh polei). Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry, 1958. 907 p. (MIRA 11:8)

(Dielectrics)

GUREVICH, Aleksandr Grigor'yevich; STAROKADOMSKAYA, Ye.L.; KRYUCHKOVA, V.N., tekhn.red.

[Ferrites at microwave frequencies] Ferrity na sverkhvysokikh chastotakh. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1960. 407 p. (MIRA 13:7)
(Ferrates) (Microwaves)

GERTSRIKEN, Solomon Davydovich; DEKHTYAR, Il'ya Yakovlevich; STAROKADOMSKAYA, Ye.L., red.; MURASHOVA, N.Ya., tekhn.red.

[Diffusion in solid-phase metals and alloys] Diffuziia v metallakh i splavakh v tverdoi faze. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1960. 564 p. (MIRA 13:10)
(Diffusion) (Metallography)

9.3120
5 2200

25977
S/539/60/000/031/010/014
E071/E135

AUTHOR: Starokadomskaya, Ye.L.

TITLE: The preparation of a fine crystalline barium-strontium carbonate from barium and strontium hydroxides

PERIODICAL: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, No.31, 1960. Issledovaniya v oblasti khimii i tekhnologii elektrovakuumnykh materialov. pp.66-69

TEXT: Barium-strontium carbonate used for thermoemission coatings of radio tubes is at present prepared on an industrial scale by precipitation from a solution of barium and strontium nitrates with a solution of soda or ammonium carbonate. This method is somewhat cumbersome as the crystals of the mixed carbonate so produced require size reduction by ball milling and when using soda for the precipitation, a prolonged washing is needed. For this reason, the author tried the preparation of the mixed carbonate by precipitation with carbon dioxide from a solution of barium and strontium hydroxides. The equimolecular mixture of hydroxides was dissolved in water at a temperature of about 100 °C and carbon dioxide was bubbled through the solution.

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The preparation of a fine crystalline.

The concentration of the hydroxide solution and its temperature were varied. The precipitate was filtered on a vacuo filter and dried. The results obtained indicate that the proposed method of preparation is simple. The carbonate precipitates are in the form of a powder of a needle-like shape, the particle size of which depends on the temperature and concentration of the starting solution. The best results are obtained at a temperature close to the boiling point of the aqueous solution. The carbonate is sufficiently pure to be used without an additional washing. An addition of alcohol during the precipitation leads to the production of a carbonate with a nearly colloidal particle size. By using this method, the process is shortened by two operations, i.e. washing and grinding.
There are 4 figures, 1 table and 2 Soviet references.

Card 2/2

25979
S/539/60/000/031/012/014
E032/E514

9,3120 (1003, 1138, 1331)

AUTHOR: Starokadomskaya, Ye.L.

TITLE: A study of leakage currents in heated cathodes

PERIODICAL: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, No.31, 1960. Issledovaniya v oblasti khimii i tekhnologii elektrovakuumnykh materialov, pp.76-83

TEXT: In spite of the fact that the performance of radio tubes is affected by leakage currents between the heater and the cathode, it is still not possible to suppress these currents entirely. The complex character of these currents was established as a result of experimental work by A. R. Shul'man (Ref.1: ZhTF, 9, 389, 1939; 10, No.13, 1940; 10, No.14, 1940; 20, No.12, 1950; Izv. LPI, Nos. 1 and 2, 1950), L. A. Timoshin (Ref.2: Izv. AN SSSR, Fiz., 22, No.5, 640 (1958), G. Metson, E. Richard Hewlett (Ref.3: Proc. IEE, 102, No.5, 698, 1955) and others. The experiments carried out by these authors were largely concerned with actual radio tubes. In all cases the form of the characteristics obtained indicated the complicated nature of the process involved and it was found that the two electrodes

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do not play the same part in the phenomenon. In particular, it was found that several different phenomena take place: there is a conduction current through the insulating layer of the heater, there is thermionic emission from the aluminium oxide layer on the heater, and there is also a gas discharge current through pores in the insulator. The total current is thus the resultant of these component currents. It is stated that it has not been known up to now which of these components predominates. The present author reports on a number of experiments which were designed to elucidate the relative importance of the various current components. In practically all the tubes investigated the heaters were insulated with alund (an aluminium oxide of mineral origin), subjected to preliminary purification process. Most of the measurements were carried out with pure alund without artificially introduced impurities. The experimental procedure was as follows. First, the total leakage currents between the heater and the cathode were measured. The volt/ampere characteristics were determined at different temperatures and supply voltage polarities. It was found that the current increased with

the temperature of the heater whatever the polarity. The current tended to saturate (again for both polarities) and, finally, a change in the polarity gave rise to a change in the current by a factor of 1.5-2. Next, a measurement was made of the thermionic current, using an experimental diode with a "large cylinder". The volt/ampere characteristics were again determined at different temperatures and polarities. Here again the current tended to saturate and was higher by two orders in the case of a positive heater. The difference between the total and the thermionic currents may be explained by the fact that the former includes some unknown component which is large and independent of the polarity of the electrodes. It was established that this component was the conduction current through the alund layer. The KBK (KVK) alund was employed. This alund has the following composition in wt.%: 0.09 Na_2O, 0.13 SiO_2, 0.035 Fe_2O_3, 0.001 Cl' and 0.01 F'. In order to obtain a dense insulating layer, the alund powder was suspended in a mixture of ethyl alcohol, a solution of nitrocellulose in isoamyl acetate and a small amount of a s o l u t i on of cerium nitrate in methyl alcohol. The insulator was deposited from suspension by a

cataphoretic method. The deposit was heated at 600°C in a hydrogen atmosphere or in vacuum. In addition to "pure" alund, some tests were made on alund with admixtures of talcum, zirconium and a small amount of tungsten. It was established, using Richardson's thermionic emission formula, that in all cases the work function for these composite layers is much lower than for pure alund and both the total and the thermionic currents are very much higher. It is suggested that further work concerned with the suppression of leakage currents should be concerned with the conduction current through the insulating alund. Acknowledgments are expressed to Post-graduate I. D. Ionova who took part in this work. There are 6 figures, 2 tables and 3 references: 2 Soviet and 1 non-Soviet.

Card 4/4

25980
S/539/60/000/031/013/014
E194/E135

15.2640 9.3120

AUTHORS: Starokadomskaya, Ye.L., Tsitovskiy, I.L., and Klepikova, E.N.

TITLE: An investigation of materials for high-temperature heaters of hot-cathodes

PERIODICAL: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, No.31, 1960. Issledovaniya v oblasti khimii i tekhnologii elektrovakuumnykh materialov. pp. 84-91

TEXT: The development of hot cathodes with operating temperatures of 1300-1500 °C has led to a demand for insulating materials for operating temperatures of 1600-1800 °C. It has accordingly become necessary to measure the high temperature electrical conductivity of certain high melting point oxides, which often have semiconducting properties at high temperatures. The resistance was measured by passing current through the specimen in series with a standard wire wound resistance of 1 megohm and measuring the corresponding potential drops on a potentiometer. The current carrying and measuring electrodes were inserted into the material for test whilst still in powder form. The samples

An investigation of materials for ...

with binder were then dried and heat-treated for 2-5 minutes in a hydrogen atmosphere furnace at a temperature of 1600-1650 °C. The specimens were cylinders about 12 mm long and 7 or 3 mm dia. The electrodes were made of tungsten. The conductivity measurements were made in a high temperature high vacuum heater. The specimens were placed within an alundum tube which carried a heating element of tantalum strip. Screens of molybdenum foil were used to reduce radiation losses. The entire assembly complete with electrical leads and thermocouple connections was sealed in a glass bulb. The operating temperature could be raised to 1800 °C at a vacuum of 10^{-6} mm Hg. The test specimens were made of: alundum, beryllium oxide, a system consisting of 90% alundum and 10% beryllium oxide, a system consisting of aluminium oxide and 1% chromium oxide. Test results obtained with different samples of alundum are shown in Fig.4. This plots conductivity as a function of temperature for four specimens fired in a hydrogen atmosphere furnace under the same nominal conditions but at different times. The unfired powder contained: SiO_2 - 0.38%; Na_2O - 0.13%; Fe_2O_3 - 0.015%. Corresponding curves are given in Fig.6 for beryllium oxide fired at a temperature of 1580 °C for three minutes on different days.